

# Attribute-Based Component Programming System and Methodology for Object-Oriented Languages

## Abstract

An attribute-based component programming system and methodology for object-oriented languages is described. In one embodiment, for example, a method is described for dynamically generating program code adding behavior to a program based on attributes, the method comprises steps of: adding a component object to a program class of the program to create a component; defining at least one attribute specifying declaratively behavior to be added to the program; associating the at least one attribute with the component; and in response to instantiation of the component at runtime, generating a subclass based on the program class and the at least one attribute, the subclass including dynamically generated program code based on the at least one attribute.